

ON CERTAIN LAND SHELL LOCALITIES

BY CALVIN GOODRICH

In the recently published Part 2 of Volume I of the "Land Mollusca of North America," Dr. Pilsbry closes the discussion of *Stenotrema monodon* (Rackett) with these words, "As Thunder Bay appears on maps of the time, properly located and under that name, and was on the regular water route of trappers and other travelers to Mackinac Strait and the Sault Ste. Marie, there seems no reason to doubt that the type locality of *Helix monodon* was in what is now Alpena County, Michigan."

Inasmuch as *S. monodon* does occur in Alpena County, Michigan, and that county borders on Lake Huron, serving in Rackett's description to place his Thunder Bay, it is perhaps captious to challenge a locality designation that answers all practical purposes. I have, however, entertained doubts about the matter for a long time and would like to recite them if only to get them aside and forgotten.

In the first place, Rackett headed his article "Description of Some Shells Found in Canada" and in the text says that these shells were taken "by Edmund Sheppard, Esq., of the Royal Artillery, in Canada, in the year 1818." He wrote in 1822, or possibly 1821. By that time the demarkation of Michigan from Canada was thirty-eight years old by treaty and twenty-five by evacuation. The War of 1812 was over. Mackinac had been returned to the United States after recapture and white residents of Michigan were beginning to think of their territory as something else than a source of furs. It seems to me unlikely that a member of the British army would be traveling up the west side of Lake Huron, going as he would be to Sault Ste. Marie in Ontario and not to Mackinac, and more unlikely that he would be making a landing on the American shore. If the error in the use of the word "Canada" is wholly Rackett's, it is understandable as reflecting the nineteenth century Englishman's notorious confusion of North American geography. So, it would not do to stress "Canada" as thus employed as deciding the argument.

Rackett described the site as "a little above Thunder Bay, where the beach is formed entirely of shells." In that day of

slow traveling, "a little above Thunder Bay" could have been no great distance, surely not to exceed forty miles. The shore for forty miles above Thunder Bay of Michigan consists of rocky headlands, boulder strewn "flats" sometimes flecked with reedy pools, sometimes entirely under water; a few, narrow sand beaches. Wave action is strong. The shallows are scanty hems to the land, shelving off quickly into deep water. Except Lymnaeidae in small colonies here and there and battered Unionidae looking as though they had been swept in from a distance, I have seen few mollusks on that coast. The conditions are not favorable ones for large molluscan populations and hence not favorable for forming beaches "entirely of shells."

Across the lake in Georgian Bay, which is Canadian, is a Thunder Bay. It is small, shallow and within an area of exposed limestone. The bay, moreover, and the shore above and below it are in the shelter of the Christian Islands, the whole forming a sound the greatest depth of which, as shown on the hydrographic chart, is twenty-six feet. I have not seen this area, but have visited Nottawasaga Bay, the broad southern loop of Georgian Bay. Some of its beaches are as thickly covered over with shells as the western are of Lake Erie. Now this Thunder Bay lies between the entrances to two portages or cut-offs to Lake Ontario. These were used for at least a decade after the War of 1812. On one of the "carries," guards were maintained over military stores into the 1820's. The streams making up the cut-offs could accommodate only canoes and small boats. Only such craft could be handled at the portages. Once in the lake, they had to keep near shore for safety's sake. At night and in storm, when headwinds held up transport or when food was to be cooked, crews and passengers had to make landings. They would be the ones to observe a "beach formed entirely of shells" rather than travelers on the open lake, for whom there were sailing vessels well before 1770.

Among Michigan localities for *Mesodon elevatus*, Dr. Pilsbry lists Grand Rapids and Ann Arbor (fossil only), quoting, I gather, from Walker. Both these localities are in error, in every likelihood. No specimens with such data are in the Walker Collection, that of the Kent Scientific Institute of Grand Rapids and

that of the Museum of Zoology of the University of Michigan. The one citation was seemingly an acceptance on faith of a distribution census sheet that Walker sent out and which was filled in by Grand Rapids conchologists. The other was a paleontologist's determination, in every likelihood. *M. elevatus* occurs in the extreme corners of Michigan close to the southern boundary line. The indications are that the southwestern colonies represent migrations out of Indiana along the banks of the St. Joseph River. The single known colony at the southeast corner occupies a situation that was joined to the Ohio mainland until the Maumee River changed its course. What remained of the Ohio end of the land projection was inhabited by *M. elevatus* until an oil refinery took it over. The species has been collected in northwestern Ohio only along the Maumee River and its tributaries.

NOTES ON SALASIELLA FROM MEXICO

BY H. BURRINGTON BAKER

This is part 7 of a series on Mexican mollusks collected for Dr. Bryant Walker in 1926. The first part appeared (1928) as Occasional Papers Mus. Zool. Univ. Michigan, no. 193, in which the symbols for localities are explained on pp. 2-25. In plate 6, the small numbers over the scales indicate their lengths in millimeters or fractions; all the figures of shells, genitalia or radulae, with the exception of 5 to 7, have about the same magnification. Those abbreviated labels, which are not explained in the text, are defined in Bull. Bishop Museum 158: 92-93 (1938).

In the following description of the anatomy of the genus *Salasiella*, use is also made of Strebel's (1878, Beitrag 3: 29, pl. 10, f. 1-7) figures of *S. joaquinae*.

Foot elongate; lower pedal groove distinct; tail without mid-dorsal groove; sole narrow, attenuate but rounded posteriad. Mantle collar very broad either side of pedal groove and dorsally, so that pneumostome is distant from anterior wall of lung (Strebel's f. 5), with a broad glandular zone and a narrow anal extension along hindgut (Strebel's f. 4); right mantle-lappet not free; anterior and posterior left ones of medium size and widely separated; umbilical lobe small. Lung wall with indistinct minor venation. Kidney (Strebel's f. 6) with a triangular limb along and longer than pericardium and an exceedingly